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⑪ Publication number:

0 401 705 A3

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## EUROPEAN PATENT APPLICATION

⑬ Application number: 90110475.2

⑮ Int. Cl.5: A61K 31/66, A61K 31/365,  
A61K 31/235, A61K 31/35,  
A61K 31/415, A61K 31/015,  
A61K 37/22, A61K 31/00

⑯ Date of filing: 01.06.90

⑭ Priority: 05.06.89 US 361520

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⑯ Date of publication of application:  
12.12.90 Bulletin 90/50

⑯ Inventor: Eisman, Martin  
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⑯ Designated Contracting States:  
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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W-8000 München 86(DE)

⑯ Date of deferred publication of the search report:  
07.01.93 Bulletin 93/01

⑯ Use of an HMG CoA reductase inhibitor and/or a squalene synthetase inhibitor for treating peripheral atherosclerotic disease.

⑯ A use of a pharmaceutical composition is provided for treating peripheral atherosclerotic disease (arteriosclerosis obliterans) and/or intermittent claudication containing an HMG CoA reductase inhibitor alone and/or inhibitor of the enzyme squalene synthetase and optionally a pharmaceutical which reduces serum cholesterol by a mechanism other than inhibiting production of the enzyme HMG CoA reductase or the enzyme squalene synthetase, for example, probucol or gemfibrozil.

EP 0 401 705 A3



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**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

which under Rule 45 of the European Patent Convention  
shall be considered, for the purposes of subsequent  
proceedings, as the European search report

EP 90 11 0475

<b>DOCUMENTS CONSIDERED TO BE RELEVANT</b>																											
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)																								
Y	PHARMACOLOGICAL RESEARCH COMMUNICATIONS, vol. 13, no. 10, 1981, pages 921-926, The Italian Pharmacological Society; D. KRITCHEVSKY et al.: "Influence of mevinolin on experimental atherosclerosis in rabbits" * Page 291 * ---	1-3, 7-12	A 61 K 31/66 A 61 K 31/365 A 61 K 31/235 A 61 K 31/35 A 61 K 31/415 A 61 K 31/015 A 61 K 37/22 A 61 K 31/00																								
Y	DIALOG INFORMATION SERVICES, file 155: MEDLINE, abstract no. 84268739; V.A. DUDAEV et al.: "Effect of probucol on lipid metabolism and the clinical course of ischemic heart disease and arteriosclerosis obliterans of the vessels of the lower extremities", & KARDIOLOGIIA JUNE 1984, 24 (6), p76-9 ---	1-3, 7-12 -/-																									
			TECHNICAL FIELDS SEARCHED (Int. Cl. 5)																								
			A 61 K																								
<b>INCOMPLETE SEARCH</b>																											
<p>The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims.</p> <p>Claims searched completely:</p> <p>Claims searched incompletely: 1-12</p> <p>Claims not searched:</p> <p>Reason for the limitation of the search:</p> <p>see sheet -C-</p>																											
Place of search THE HAGUE		Date of completion of the search 29-09-1992	Examiner GERLI P.F.M.																								
<table border="0"> <tr> <td colspan="2"><b>CATEGORY OF CITED DOCUMENTS</b></td> <td colspan="2">T : theory or principle underlying the invention</td> </tr> <tr> <td colspan="2">X : particularly relevant if taken alone</td> <td colspan="2">E : earlier patent document, but published on, or after the filing date</td> </tr> <tr> <td colspan="2">Y : particularly relevant if combined with another document of the same category</td> <td colspan="2">D : document cited in the application</td> </tr> <tr> <td colspan="2">A : technological background</td> <td colspan="2">L : document cited for other reasons</td> </tr> <tr> <td colspan="2">O : non-written disclosure</td> <td colspan="2">A : member of the same patent family, corresponding document</td> </tr> <tr> <td colspan="2">P : intermediate document</td> <td colspan="2"></td> </tr> </table>				<b>CATEGORY OF CITED DOCUMENTS</b>		T : theory or principle underlying the invention		X : particularly relevant if taken alone		E : earlier patent document, but published on, or after the filing date		Y : particularly relevant if combined with another document of the same category		D : document cited in the application		A : technological background		L : document cited for other reasons		O : non-written disclosure		A : member of the same patent family, corresponding document		P : intermediate document			
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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.  
namely claims:
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.  
namely:

see sheet -B-

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid.  
namely claims:
- None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.  
namely claims:



## PARTIAL EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	REVISTA CLINICA ESPANOLA, vol. 140, no. 4, 1976, pages 371-376; M. LASSO et al.: "Terapéutica hipolipemianta a largo plazo en la aterosclerosis obliterante" * Page 372, left-hand column, lines 48-55; page 374, left-hand column, lines 10-14 *	1-3,7-12	
A	BIOCHIMICA ET BIOPHYSICA ACTA, vol. 960, 1988, pages 294-302, Elsevier Science Publishers B.V. (Biomedical Division); Y. WATANABE et al.: "Preventive effect of pravastatin sodium, a potent inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase, on coronary atherosclerosis and xanthoma in WHHL rabbits" * Page 301 *	1-3,7-12	TECHNICAL FIELDS SEARCHED (Int. CL5)
A	US-A-4 654 363 (PRUGH) * Column 1, line 31 - column 2, line 7 *	1-3,7-12	
A	NATIONAL MEETING OF THE AMERICAN FEDERATION FOR CLINICAL RESEARCH, Washington, DC, 28th April - 1st May 1989, vol. 37, no. 2, page 261A; J. GELLMAN et al.: "Lovastatin, a H05C COA reductase inhibitor, reduces restenosis following balloon angioplasty in an atherosclerotic hypercholesterolemic rabbit"	1-3,7-12	
Y,D	US-A-4 759 923 (BUNTIN) * Column 5, lines 49-64 *	1-3,7-12	
Y,P	EP-A-0 356 866 (SQUIBB) * Page 1; claims *	1-12	
	---	-/-	



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EP 90 11 0475 -3-

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-3, 7-12 partially:

Use of an inhibitor of the enzyme HMG CoA reductase (or a mixture with squalene synthetase inhibitor) (or its combination according to claims 7-10) for the preparation of a medicament for treating arteriosclerosis obliterans and/or intermittent claudication

2. Claims 1-3, 7-12 partially; 4-6:

Use of an inhibitor of the enzyme squalene synthetase (or its combination according to claims 7-10) for the preparation of a medicament for treating arteriosclerosis obliterans and/or intermittent claudication



EP 90 11 0475

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#### OBSCURITIES

##### The terms:

1 - inhibitor of HMCoA reductase/squalene synthetase, [claim 1]

2 - a pharmaceutical which reduces cholesterol (...) by a mechanism other than inhibiting the production of (...) [claim 7]

3 - a pyrazole analog, an indene analog, a 3-carboxy (...) derivative, a 6- (...) pyran-2-one, an imidazole analog, a heterocyclic analog, a naphthyl analog, an octahydro-naphthalene, a keto analog, a 2,3-di-substituted pyrrole, furan or thiophene, [claim 2]

are obscure for the following reasons and are only partially searchable:

1,2 - a compounds cannot be (fully) identified by merely mentioning its activity; chemical parameters are necessary to define the limits of the claim's scope.

3 - they provide open-ended definitions, whose understanding is based on subjective interpretation.

##### Moreover:

The subject matter of claims 1-12 is not supported by pharmacological evidence. As a result, this subject matter is speculative (EPC Articles 52(2)(a), 83 and 84). In the absence of pharmacological data, the evaluation of the technical nature of the subject matter and the comparison with the prior art are equivocal and subjective. As a consequence, it may well be that relevant prior art is not comprised in the search report.